

REMARKS/ARGUMENTS

This is a Response to the Office Action mailed October 26, 2005, in which a three (3) month Shortened Statutory Period for Response has been set, due to expire January 26, 2006. Four (4) claims, including one (1) independent claim, were paid for in the application. Claims 1-11 and 15-21 have been previously canceled. No claims have been amended or canceled in the present Amendment. One (1) new claim has been added to the application. No new matter has been added to the application. No fee for additional claims is due by way of this Amendment. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Claims 12-14 and 22 are pending.

Rejections Under 35 U.S.C. § 102(b)

The Examiner rejected claims 12 and 14 under 35 U.S.C. § 102(b) as being anticipated by Gänlein (EP Application No. 0891007; hereinafter referred to as "Gänlein"). Gänlein identifies the subject matter disclosed therein as an improvement over German Utility Patent DE 8901317 U1 (the '317 patent), a copy of which is enclosed herein, and which is discussed herein to compliment the motivation and teaching of Gänlein. Applicants respectfully traverse these rejections. Of the rejected claims, only claim 12 is an independent claim.

The German patent discloses a bushing assembly in which a single bushing 1 includes a flange head 5 installed into a hole 3 in a web 4 by axially, radially, and laterally displacing bushing material (Abstract and Figures 2-3). A punch 15 is used to radially expand some of the bushing material into the web 4, while other bushing material is axially and laterally extruded beyond the rim of the hole 3 of the web 4 to form a second flange (Figure 3) on the opposite side of the web 4 from the flange head 5. The '317 patent teaches that the bushing material is extruded beyond the rim of the hole 3 and forms a second flange, which provides axial fixity of the bushing 1 within the web 4 (Abstract and Figures 2-3). Further, radial fixity is provided between the bushing 1 and the web 4 in response to the punch 15 being drawn through the hole 10 in the bushing 1 to cause a radial expansion thereof (Abstract and Figures 2-3). A bushing cap 23 is affixed to the entire assembly with a threaded bolt 20a and a nut 21 (Figure 4).

Accordingly, the '317 patent teaches that axial fixity is provided by extruding some of the bushing material out of the hole 3 in the web 4, while radial fixity is provided by radially expanding the cylindrical stem 2 of the bushing 1 to stably couple the bushing 1 in the hole 3 of the web 4 (Abstract and Figures 2-3).

Referring to Figure 3 of the '317 patent, it can be seen that placing an inner bushing into the outer bushing 1 would be problematic because of interference of the bushing material that has been extruded beyond the rim of the hole 3 to form the second flange. Gänstein specifically teaches that the problem to be solved is to achieve improved contact of the bushings 1, 2 with the rail web 9 (Gänstein, English translation; ¶ 3, lines 3-4). Gänstein solves this problem by *not radially expanding and not axially extruding* any of the material of the outer bushing 2, but instead provides a turned-out hollow 14 in the outer bushing 2 that accepts axially extruded material from the inner bushing 1 when a mandrel 12 is drawn through the inner bushing 1 (Gänstein: Figures 2 and 3). Thus, the axially extruded material of the inner bushing 1 that is pressed into the turned-out hollow 14 operates as a retaining flange to couple the inner bushing 1 to the outer bushing 2 and further to retain the inner and outer bushings 1, 2 in the rail web 9 (Figure 3).

Gänstein is particularly instructive on the point that the outer bushing 2 of Gänstein is *not* altered during the mandrel 12 drawing process. Applicants refer the Examiner to Figures 1, 2, and 3 of Gänstein. Figure 1 shows both the inner bushing 1 and the outer bushing 2 in their pre-installed state. Figure 2 shows the inner bushing 1 and the outer bushing 2 placed in the opening of the rail web 9 before the mandrel 12 has been drawn through the inner bushing 1. Figure 2 clearly illustrates that the wall thickness of both bushings 1, 2 has not been altered from that of Figure 1. Figure 3 shows the inner and outer bushings 1, 2 in the rail web 9 after the mandrel 12 has been drawn through the inner bushing 1. Figure 3 clearly shows that the wall thickness of the inner bushing 1 has been decreased due to the mandrel 12 drawing process such that some of the inner bushing 1 material has been radially compressed and some of the inner bushing 1 material has been axially extruded into the turned-out hollow 14. Importantly, the wall thickness of the outer bushing 2 in Figure 3 is unchanged from that of Figure 1 and/or Figure 2

demonstrating that the mandrel drawing process for installing the inner bushing 1 has no effect on the outer bushing 2 or the material of rail web 9.

Gänslein does not disclose, teach, or suggest that the mandrel drawing process for installing the inner bushing 1 has any effect whatsoever on the material of the rail web 9 surrounding the outer bushing 2. Further, Gänslein does not disclose, teach, or suggest that the perimeter of the mandrel and/or the thickness of the inner and outer bushings 1, 2 are sized to induce any effect on the material of the rail web 9 during the mandrel drawing process. And, Gänslein does not disclose, teach, or suggest that a tight interference fit is achieved between the outer bushing 2 and the rail web 9. Instead, Gänslein teaches that the fixity of the outer bushing 2 with the rail web 9 is directly caused by extruding the inner bushing 1 material into the turned-out hollow 14 of the outer bushing 2.

Accordingly, Gänslein fails to disclose, teach, or suggest “radially expanding the second tubular section of the second bushing by an amount sufficient to cause a radial expansion of both the first tubular section of the first [e.g., outer] bushing and the opening in the work member [e.g., rail web], the radial expansion of the second tubular section [e.g., of the inner bushing] causing a tight interference fit between the second [e.g., inner] bushing, the first [e.g., outer] bushing, and the work member [e.g., rail web], respectively” as recited by claim 12.

Applicants’ approach can provide numerous advantages over the installation method taught by Gänslein. For example, Applicants method may induce compressive residual stresses in the work member (page 8, lines 22-25, of the specification), while Gänslein’s method does not obtain such a result because Gänslein teaches that the thickness of the outer bushing 2 remains unchanged during the mandrel drawing process. In addition, Applicants’ method provides a quick and efficient way of installing and radially expanding the inner bushing, the outer bushing, and the work member with a one-time pass of the mandrel to provide “a tight interference fit” therebetween without having to axially remove or extrude material from the inner bushing to form a retention flange. These exemplary advantages, among others, are provided to assist the Examiner in distinguishing the novel aspects of Applicants’ claimed invention in view of Gänslein.

Consequently, claim 12 is not anticipated nor suggested by Gänlein and is therefore allowable. Applicants respectfully request that the Examiner withdraw the Section 102 rejection and allow claim 12. In addition, Applicants respectfully request that the Examiner withdraw the Section 102 rejection and allow claim 14, which depends from an allowable base claim and which further recites distinguishing limitations. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

Rejections Under 35 U.S.C. § 103(a)

The Examiner rejected dependent claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Gänlein in view of U.S. Patent No. 3,949,535 to King Jr. (hereinafter referred to as "King"). Applicants respectfully traverse this rejection.

King does not disclose, teach, or suggest the recited claim elements of independent claim 12 that are missing from Gänlein. Thus, Gänlein and King, either singularly or in combination, do not render claim 12 unpatentable. Similar to claim 14 above, claim 13 depends from an allowable base claim and is therefore allowable. *Id.*

New Claims

In addition to the above, Applicants have submitted new independent claim 22. No new subject matter has been added. Support for the new claims can be found generally in Figure 9 and in the written description, particularly on pages 13 and 14 of the application. Although the language of this new independent claim may differ from the language of independent claim 12, the allowability of claim 22 will be apparent in view of the above remarks.

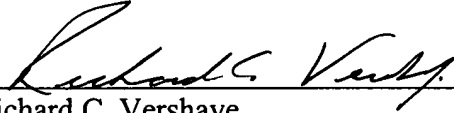
Conclusion

Overall, the cited references do not singly, or in any motivated combination, teach or suggest the claimed features of the embodiments recited in independent claim 12, and thus such this claim is allowable. Because the remaining claims depend from the allowable independent claim, and also because they include additional limitations, claims 13 and 14 are also allowable. If the undersigned attorney has overlooked a relevant teaching in any of the

references, the Examiner is requested to point out specifically where such teaching may be found.

In light of the above amendments and remarks, Applicants respectfully submit that all pending claims are allowable. Applicants, therefore, respectfully request that the Examiner reconsider this application and timely allow all pending claims. Examiner is encouraged to contact Mr. Vershave by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the claims, he is encouraged to contact Mr. Vershave by telephone to expediently correct such informalities.

Respectfully submitted,
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